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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/615,399

07/09/2003

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EXAMINER

ANGEBRANNDT, MARTIN J

ART UNIT

PAPER NUMBER

1756

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/06/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/615,399	<b>Applicant(s)</b> KODAMA, DAIJIRO	
	<b>Examiner</b> Martin J. Angebranndt	<b>Art Unit</b> 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/07/2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-8 and 10-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-8 and 10-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The response of the applicant has been read and given careful consideration. Responses to the arguments are presented after the first rejection to which they are directed. Rejections of the previous office action, not repeated below are withdrawn based upon the arguments and amendments.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2-8,10-14 and 17-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recorded image is - - replayed- - not "created" as it already exists and the illumination light" is the - - replay light- -. Also "plain" should read - - plane- - (see claims 17 and 18).

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 2-8,10-14 and 17-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The language The light from the stereoscopic image and the plain [sic, plane] pattern image arising from a first side of the volume hologram and the illumination light arise [sic,

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arises] from a second side of the hologram makes the hologram produced a transmission hologram (the replayed images are generated by light passing through the hologram), where the specification only describes the final hologram being a reflection hologram. This is a new matter issue as it is not clear that this embodiment was envisioned by the applicant.

The applicant points to the embodiments of figures 1a-2b, but it seems that these are assembled together with the photosensitive medium (29) in figure 3 to form a reflection hologram as the reference and object (the portions of the reference beam reflected by the composite of 21'' and 11') are incident upon different sides of the recording medium (29).

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 15-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishikawa et al.

JP-11-024538.(machine translation attached).

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Nishikawa et al. JP-11-024538 teach a volume hologram with a two holograms both in the same holographic recording medium so that they replay at the same time including both planar and three dimensional information (figure 3). [0008]. The planar hologram has additional information for authentication, results from a desensitization of the master and uses moiré patterns arising from the interaction of the holographic pattern (open boxes) with the screen pattern (12, solid boxes) as illustrated in figure 4[0007-0008,0014].

Both images are present and the use of the moiré patterns to validate the hologram is shown. It is not clear if the images of the three dimensional figure and the planar image replay at the same angle. The examiner holds the position that in the recording step of 2b, the three dimensional image replays in the same relative position as shown in figure 2a, so the diffracted image is projected more or less perpendicular to the plane of the film, due to the use of the conjugate replay beam and the remaining areas (1a) are reflective to form the planar image and so the object beam is the light from beam 7 reflected off at the same angle as that of the incidence, so the angle of replay is different for the images, but they overlap.

The applicant does not present any arguments relating to these claims.

9. Claims 2-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. JP-11-024538 (machine translation attached), in view of Drinkwater WO 03/066344 (available under 102(e)).

Drinkwater WO 03/066344 teaches that the patterns used in the holograms or the overlay reader can be a regular array of pixels, dots or lines, which are matched to each other (11/22-12/12/7)

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It is not clear exactly what the pattern is in Nishikawa et al. JP-11-024538, but it must be regular and seems to be dots based upon the pupil language. To address the embodiments bounded by the claims where lines are used, the examiner holds it would have been obvious to one skilled in the art to modify the teachings of Nishikawa et al. JP-11-024538 by using other regular shapes, including lines, dots or similar patterns in the hologram and the overlay reader evidenced in the art by Drinkwater WO 03/066344 as able to provide authentication using moiré patterns with a reasonable expectation of success.

10. Claims 2-5,8,11-13, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takabayashi et al. EP 1045296.

Takabayashi et al. EP 1045296 teach a volume hologram with a transmission hologram and a reflection holograms both in the same holographic recording medium so that they are simultaneously replayed [0035]. These include a planar image and a three dimensional image (figures 7,10 and 11). The recording a various planar images which replay at the same time is also disclosed with respect to figure 7. The volume hologram is a photopolymer [0024]. The use of multicolor recording is disclosed throughout. The planar images are formed by desensitization as shown in figure 1. The planar images can be characters, images or the like [0016].

It would have been obvious to one skilled in the art to modify the teachings of Takabayashi et al. EP 1045296 by forming the transmission hologram (44) shown in figure 10 by using the process described with respect to figures 1-4 which utilizes a diffuser (4) with a reasonable expectation of forming a useful transmission hologram incorporating a three dimensional image (O') and a series of images located in the same plane (1'a).

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The applicant argues that the claims now require that the images be different colors.

Neither of the beam angles (relative or otherwise) or the replay colors are recited in the claims rejected under this heading.

11. Claims 2-6,8,11-13, and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takabayashi et al. EP 1045296, in view of Nishikawa et al. JP-11-024538 or Haslop '335.

Haslop '335 teaches with respect to figures 1 and 2, the application of the holographic security features to banknotes. (7/48-8/12 and 8/42-49). This can be applied to banknotes, cheques, bonds, passports, and credits cards. (7/14-25). In figures 10 and 11, a holographic sphere (40) is used together background of lines of miniature lettering on a plainly reflecting background (9/64-10/18). The miniature writing is readable only on magnification (8/63-9/11). There is holographic security at two levels, the sphere is recognizable as a holographic image with the naked eye and further verification can be realized by viewing the holographic microtext.

To address the embodiments where the plane patterns are lines, dots or microtext, which are bounded by the claims, but not addressed above, the examiner holds that it would have been obvious to modify the transmission hologram rendered obvious by Takabayashi et al. EP 1045296 as discussed above by using other patterns, such as dots, lines or microtext as discussed by Nishikawa et al. JP-11-024538 or Haslop '335 to provide further authentication means, requiring either an overlay (Nishikawa et al. JP-11-024538) or magnification (Haslop '335).

12. Claims 2-8 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takabayashi et al. EP 1045296, in view of Nishikawa et al. JP-11-024538 or Haslop '335, further in view of Ueda et al. '540.

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Ueda et al. '540 teach in example 19 a holographic recording materials with a mirrored backing. The first exposure is at 30 degrees, the second at 50 degrees and the third at 70 degrees. Due to the principles of retroreflection and the coupling of the mirror to the back of the recording medium, the reference and object beam angles are the same for each of the exposures, but the angles are different between the exposures. Therefore the fringe spacing is different for each exposure to form different colors.

It would have been obvious to modify the combination of Takabayashi et al. EP 1045296 and Nishikawa et al. JP-11-024538 or Haslop '335 by changing the angles between the exposures as taught by Ueda et al. '540 between the various exposures of the planar images to produce a multicolored background with a reasonable expectation of success to form a full color version of a transmission hologram similar to that of figure 10 of Takabayashi et al. EP 1045296.

The applicant's arguments fail to appreciate there can be multiple causes for differences in coloration, while the applicant may be envisioning holograms with different fields of view in the replay, these limitations do not seem to be present in the claims.

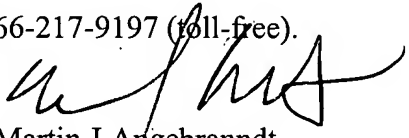
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Martin J Angebranndt  
Primary Examiner  
Art Unit 1756

03/02/2007